At page 40 replace the paragraph starting on line 19 with:

Wafers coated with T-polymer (see Example 1) were coated for 56 hours at 4°C in a solution containing 50mM sodium citrate buffer, pH 6.0, 5X SSC, and 20 μg/ml of the ssDNA capture probe complimentary to M13mp18. The probe sequence was CGCTAATATCAGAGAGATAACCCAC (SEQ. ID NO. 1). Probe coated wafers were removed from coating solution and placed into a blocking solution containing 5X Denhardt's solution, 0.5% SDS, 1mg/ml carrier DNA, and 25 mM buffer at pH 6.5. They were incubated 16-18 hours at 4°C and then rinsed with phosphate buffered saline containing 0.0005% TWEEN20 detergent at pH 7.4. Capture probe coated wafers were hybridized with M13mp18 plasmid overnight at 60°C in a solution containing 1X Denhardt's solution, 0.5% SDS, 25 mM MES, pH 6.5, 0.2 mg/ml carrier DNA, 5X SSC, a final concentration of M13mp18 was 500ng/ml, 1 ng/ml or 100pg/ml. The final hybridization step occurred under the same solution and incubation conditions as the previous step with a final biotinylated amplifying probe concentration of 92 μM. The amplifying probe contains

At page 41 replace the paragraph starting on line 1 with:

strand sequence from 6249 to 6273 and was biotinylated at residue 6261. The sequence is GCAGGTCGACTGTAGCAGGATGCCGG (SEQ. ID NO. 2) . All appropriate controls were performed. Wafers were incubated with a streptavidin alkaline phosphatase conjugate. Precipitating substrate, BCIP/nitroblue tetrazolium, was used to generate an increase in thickness at the surface of the wafer. Thickness increase were measured using an absolute ellipsometer (Gaertner). Results for the experiment are shown in Figure 2. From this experiment, it was concluded that a sensitivity of 1 ng/ml and potentially as low as 100 pg/ml was achieved. This translates to a copy number of roughly 10^{10} for a very un-optimized assay.

At page 43 replace the paragraph starting on line 29 with:

An 18 mer DNA/RNA chimera was utilized as the capture probe. The probe was biotinylated at the 5' end and has a ribonucleotide cytosine on the 3' end. The DNA sequence was 5'-CGAAGCTTGGATCCGCC-3' (ribose) (SEQ ID NO. 2). The covalently attached capture probe was treated with S1 nuclease to degrade the entire probe from the surface. The S1 nuclease was mixed in a solution of 0.2 mM NaC1, 0.05 M sodium acetate pH 5.4, 1 mM ZnSO, and 0.5% glycerol to a final concentration of 2 units/ml. A section of the

At page 44 replace the paragraph starting on line 30 with:

An 8-mer was synthesized and was 5' biotinylated and had a 3' ribose. The DNA sequence was 5' AAAGATGTA (ribose) –3' (SEQ ID NO. 4). The 8-mer was immobilized using the 15:1 periodate: probe ratio to a TC7 coated optical substrate as described in Example 4. Chips were coated at the concentrations listed in the table below. The amount of immobilized biotinylated DNA was measured by reacting a pre-determined surface area with a sufficient volume of

REMARKS

The application has been amended herein to refer to updated sequence identifiers in conjunction with Applicant's response to the Notice to Comply mailed November 15, 2001. The replacement paragraphs to the specification provided herein incorporate the updated sequence identifiers, as appropriate. Marked-up copies of the original pages of the application bearing